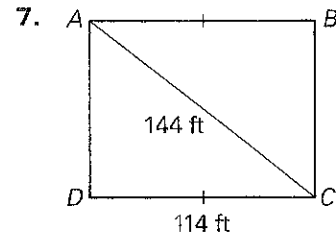
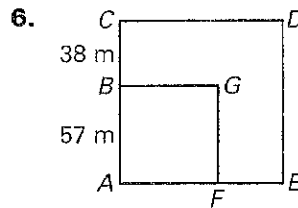
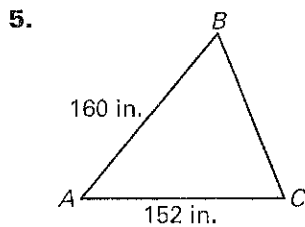


**LESSON**  
**61****Practice C**

For use with pages 356–363

**Simplify the ratio.**

1. 1 oz : 2 qt      2.  $\frac{2 \text{ cups}}{1 \text{ gallon}}$       3. 4 seconds : 1 year      4. 7 qt : 550 gallons

**Find the ratio of AB to AC in simplest form.****Let  $x = 8$ ,  $y = 6$ , and  $z = 5$ . Write the ratio in simplest form.**

8.  $3z : 2y$       9.  $2z : y + x$       10.  $\frac{3z + 2y}{4z}$       11.  $\frac{(x + y) - z}{2y}$

**The perimeter and the ratio of the length to the width of a rectangle are given. Find the length and width of the rectangle.**

12. Perimeter: 132 cm  
 $l : w = 7 : 4$       13. Perimeter: 280 ft  
 $l : w = 11 : 9$       14. Perimeter: 420 yd  
 $l : w = 17 : 13$

**The measures of the angles of a triangle are in the extended ratio given. Find the measures of the angles of the triangle.**

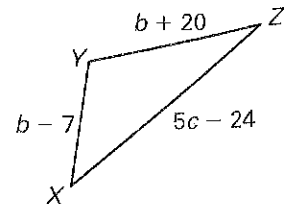
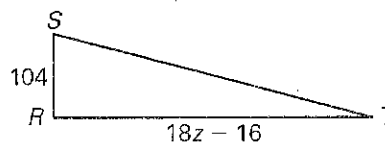
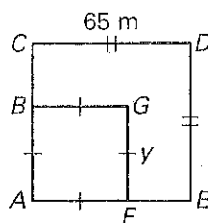
15. 2 : 5 : 5      16. 3 : 7 : 10      17. 7 : 16 : 22

**Solve the proportion.**

18.  $\frac{7}{12} = \frac{x}{48}$       19.  $\frac{11}{a} = \frac{55}{75}$       20.  $\frac{14}{y-5} = \frac{2}{3}$   
21.  $\frac{2z}{27} = \frac{3z+9}{81}$       22.  $\frac{48}{68} = \frac{b+2}{b+7}$       23.  $\frac{9}{s} = \frac{s}{16}$   
24.  $\frac{19}{32} = \frac{7d+3}{15d-11}$       25.  $\frac{x}{111} = \frac{5x-28}{333}$       26.  $\frac{4x}{6x+4} = \frac{x}{25}$

**Use the given ratio and information in the figure to find the value of the variable(s).**

27.  $CD : AB = 5 : 3$       28.  $RS : RT = 13 : 25$       29.  $XY : YZ : XZ = 7 : 10 : 14$



**LESSON**  
**6.1****Practice C** *continued*  
*For use with pages 356–363*

**Find the geometric mean of the two numbers.**

30. 6 and 24                      31. 7 and 28                      32. 4 and 12  
33. 9 and 12                      34. 15 and 45                      35. 12 and 48

**The area and the ratio of the length to the width of a rectangle are given. Find the length and width of the rectangle.**

36. Area:  $192 \text{ ft}^2$                       37. Area:  $294 \text{ yd}^2$   
 $\ell : w = 3 : 1$                        $\ell : w = 3 : 2$

**The three coordinate points are collinear. Use slopes to write a proportion and to find the value of  $a$ .**

38.  $(-4, 1), (-1, 2), (5, a)$                       39.  $(4, 5), (1, 2), (a, 0)$

40. **Rectangles** The ratio of the length to the width of one rectangle is proportional to the ratio of the length to the width of a smaller rectangle. Describe the circumstances for which this proportion involves a geometric mean.
41. **Carpet Cleaning** A carpet cleaning solution calls for a mixture of 1 ounce of cleaner per 2 quarts of water. You use a total of 13 gallons of water in mixing the solution according to these directions. How much cleaning solution do you use?
42. **Sports Training** Over a given period of time, you can lose weight if your body burns more Calories than it consumes. Specifically, it takes a difference of 3500 Calories to lose 1 pound of body weight. Suppose your total body weight decreases by 42 ounces while you are training for a sport. How many more Calories has your body burned than it has consumed during this time?
43. **Currency Exchange** You and a friend win a free trip to Europe. The plane trip includes a layover in Canada before continuing service to Europe. At the time of your trip, the currency exchange rates are 1 U.S. dollar per 1.14 Canada dollar and 1 U.S. dollar per 0.84 Euros.
- a. During the layover, you purchase a book that costs \$20 in Canadian currency. How much does the book cost in U.S. dollars?
  - b. Once you arrive in Europe, you exchange \$80 in U.S. currency. How many Euros do you get for that amount?
  - c. Your friend exchanges \$25 in Canadian currency for Euros. How many Euros does your friend receive?

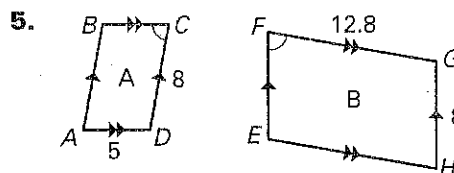
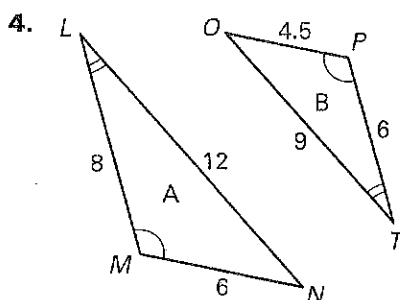
**LESSON**  
**6.3**
**Practice C**

For use with pages 371–379

List all pairs of congruent angles for the polygons. Then write the ratios of the corresponding sides in a statement of proportionality.

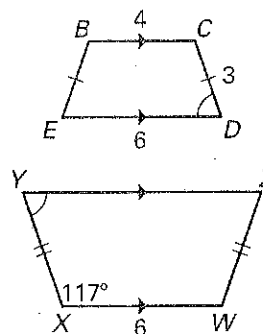
1.  $\triangle STU \sim \triangle CDE$
2.  $\triangle LMN \sim \triangle GHI$
3. quadrilateral  $CDEF \sim$  quadrilateral  $MNKL$

Determine whether the polygons are similar. If they are, write a similarity statement and find the scale factor of Figure A to Figure B.



In the diagram at the right, quadrilateral  $BCDE \sim$  quadrilateral  $WXYZ$ .

6. Find the scale factor of quadrilateral  $BCDE$  to quadrilateral  $WXYZ$ .
7. Find the scale factor of quadrilateral  $WXYZ$  to quadrilateral  $BCDE$ .
8. Find  $XY$ .
9. Find  $m\angle C$ .
10. Find the perimeter of quadrilateral  $WXYZ$ .



Use the given information to find the indicated value.

11. **GIVEN:**  $\triangle CDX \sim \triangle GNZ$ , the perimeter of  $\triangle CDX$  is 48 feet,  $CX = 14$  feet, and  $GZ = 58.8$  feet.  
Find the perimeter of  $\triangle GNZ$ .
12. **GIVEN:**  $\triangle ABC \sim \triangle DEF$ ,  $\triangle ABC$  is isosceles,  $\triangle ABC$  has a perimeter of 18 inches and a leg of length 5 inches, and the base of  $\triangle DEF$  is 34.4 inches long.  
Find the perimeter of  $\triangle DEF$ .